AMENDMENTS

Please amend the above-identified application as follows:

In The Specification

Please amend the title at page 1, lines 1-2 of the application to read:

COMPOSITING SEPARATELY-GENERATED THREE-DIMENSIONAL IMAGES

In The Claims

Please cancel claims 5, 9, 11, 12 and 15-17 without prejudice or disclaimer.

Please substitute the following claims 2, 3, 6, 10, 13, 14, 18, 19, 21, 28, 30 and 31 for claims of the same number previously pending.

2. (Amended) The graphics system of claim 1, wherein said 2D and 3D images are represented by pixel data.

3. (Amended) The graphics system of claim 1, wherein the graphics system comprises a rendering pipeline comprising:

a geometric pipeline constructed and arranged to generate a two-dimensional image from one or more model views represented by primitive data; and

said imaging pipeline.

6. (Amended) The graphics system of claim 1,

wherein the graphics system further comprises a frame buffer for storing pixel data to be displayed on a display device, and

wherein said 3D images to be composited comprise:

a stored image stored in the frame buffer; and

a next image to be composited with the stored image.

10. (Amended) The graphics system of claim 14,

wherein for each pixel, said imaging pipeline writes to a frame buffer of the graphics system the color data of the 3D image that is closest to the viewpoint.

13. (Amended) The graphics system of claim 1, wherein said 3D images are represented by pixel data comprising Z coordinate data, color data and X,Y coordinate data, wherein said imaging pipeline receives said Z coordinate data over a data channel of the imaging pipeline configured to transfer data other than Z coordinate data, and receives said X,Y coordinate data over an address data channel.

14. (Amended) The graphics system of claim 1, wherein said imaging pipeline comprises:

a depth buffer configured to store Z coordinate data for each pixel in a display scene; and

a depth test module constructed and arranged to compare Z coordinate data of said 3D images, and to store in said depth buffer Z coordinate data of each pixel of the 3D image that is closest to scene viewpoint.

18. (Amended) A method for compositing 3D images in a 2D imaging pipeline to form a composited image comprising:

storing in a frame buffer a stored 3D image including color data and Z coordinate data;

processing in the 2D imaging pipeline Z coordinate data of a next 3D image to determine whether the stored or next 3D image is to be rendered at each pixel in the composited image; and

replacing said stored color data with color data of said next 3D image for each pixel at which the next 3D image is to be rendered in the composited image.

19. (Amended) The method of claim 18, wherein said processing Z coordinate data comprises:

transferring Z coordinate data of the next image through an available data channel of imaging pipeline;

depth testing the stored and next images;

updating a depth buffer as necessary to store Z coordinate data of a closest image;

and

recording an indication of which 3D image is the closest image.

21. (Amended) The method of claim 18, wherein the imaging pipeline consists of a color data channel and an address data channel, and wherein replacing the stored color data comprises:

receiving over the color data channel the color data of the next 3D image, and

storing the color data of the next 3D image when the recording step records an indication that the next 3D image is the closest 3D image.

28. (Amended) A graphics system comprising a two-dimensional imaging pipeline configured to manipulate two-dimensional (2D) images and to composite separately-generated stored three-dimensional (3D) image stored in a frame buffer, and a next 3D image, comprising,

a color data channel adapted to receive Z coordinate data and color data of a next 3D image;

an image compositing module configured to perform a depth test to determine which 3D image is to be rendered at each pixel based on Z coordinate data of the next image received over the color data channel, and Z coordinate data of the stored 3D image, and to store the Z coordinate data of the 3D image to be rendered at that pixel in a depth buffer, and a stencil test to form a stencil mask identifying which 3D image is the image that is to be rendered at each pixel,

wherein the imaging pipeline, in response to receipt of color data over the color data channel, updates a color buffer to have stored therein color data of the 3D image to be rendered at each pixel of the composite image.

30. (Amended) The graphics system of claim 28, wherein the graphics system comprises a rendering pipeline comprising:

a geometric pipeline constructed and arranged to create a two-dimensional image from primitive data; and

said imaging pipeline.

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31. (Amended) A graphics system comprising a graphics application controlling a 2D imaging pipeline to composite a first 3D image and a second 3D image generated separately than the first image, wherein the imaging pipeline processes Z coordinate data of the images to determine, for each pixel in the composited image, which of the first or second 3D image is closest to a viewpoint, and stores color data of the closest 3D image in a frame buffer for rendering on a display device.

Please add the following new claims 32-37:

36.

~~32.~~ (New) The graphics system of claim 13, wherein the data other than Z coordinate data is color data, and the channel provided to transfer data other than Z coordinate data is a color data channel.

37.

~~33.~~ (New) The graphics system of claim 14,

wherein said depth test module receives Z coordinate data of a next 3D image to be compared with a 3D image stored in a frame buffer of the graphics system over a color data channel of the imaging pipeline.

38.

~~34.~~ (New) The graphics system of claim 14, wherein said indication of which 3D image is closest to the viewpoint at each pixel is provided through the setting of a corresponding bit in a stencil buffer of the imaging pipeline.

39.

~~35.~~ (New) The graphics system of claim 1, wherein the graphics system further comprises a frame buffer for storing pixel data, and wherein the 3D images comprise a stored image stored in the frame buffer and a next 3D image to be composited with the stored image, wherein the next image is passed through the imaging pipeline twice to composite it with the stored 3D image.

40.

~~36.~~ (New) The graphics system of claim *39* ~~35~~, wherein in an initial pass through the imaging pipeline, a depth test is performed to determine which 3D image is to be rendered at each pixel, with an indication of that 3D image and its Z coordinate data being stored in a memory location associated with each pixel, and in a subsequent pass